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Arthur Cayley, Esq., in the Chair.

William Radcliff Birt, Esq., 11 Wellington Street, Victoria
Park,

was balloted for and duly elected a Fellow of the Society.

On the Variable Star U *Geminorum.* By J. Baxendell, Esq.

After remaining invisible for about twelve months, this extraordinary and highly interesting variable suddenly re-appeared in the middle of November last, and passed through a maximum of unusually short duration; the whole time of visibility not exceeding *nine* days. My observations of its magnitude on different nights during this short apparition were as follows:—

	d	h	m	
1858, Nov.	12	12	0	14·0 magnitude
	15	11	30	9·3 ,,
	16	11	0	9·5 ,,
	17	11	30	9·8 ,,
	18	13	0	10·6 ,,
	21	12	30	below 13·3 ,,

These magnitudes were derived from careful comparisons of the variable with several of Mr. Pogson's comparison stars (*Monthly Notices,* vol. xvii. p. 202), and also with three faint

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1859MNRAS..19...78L

stars not included in Mr. Pogson's list, the magnitudes of which I have determined photometrically with the 13-inch reflector of Mr. Worthington's observatory. As showing the degree of reliance to be placed on these magnitudes, I may remark that the greatest difference between my photometrical results and Mr. Pogson's for the stars included in his list does not exceed *two-tenths* of a magnitude.

From the above observations it appears that between the 12th and the 15th of November the brightness of U *Geminorum* increased through 4·7 magnitudes; or at the extraordinary rate of fully *one magnitude and a half* per day! The rate of decrease, though less striking, was still remarkable, averaging between the 16th and 21st of November not less than *three-fourths* of a magnitude per day.

The liability of the star to these rapid changes of brightness at its maximum may, probably, be the chief reason why it escaped observation at the expected times of its reappearance in January and May last; as a very short, and possibly also very low, maximum might occur during a few days of unfavourable weather, or when hazy skies were prevalent, and the moon at the same time inconveniently near the place of the star.

When the variable was at its maximum brightness on the 15th of November, I remarked that it was much less sharply defined than Mr. Pogson's comparison stars *b* and *c*, to which it was then equal in brightness; and that, compared with them, it had a somewhat hazy or nebulous appearance. This hazy appearance was also remarked on the 17th while viewing the star with Mr. Worthington's large reflector. During the whole time of the star's visibility, its colour, which was *white*, remained unchanged.

The next maximum of U *Geminorum* may be expected to occur between the 18th and 26th of February; and it is very desirable that it should then be more generally looked for than it appears to have been on past occasions, in order that it may not wholly escape observation in consequence of the prevalence of unfavourable weather in particular localities.

Manchester, Jan. 17, 1859.

Observations of Donati's Comet. By William Lassell, Esq.

(*Abstract.*)

I send some drawings of Donati's Comet with some observations in continuation of those which appeared in page 21 of the current volume of the *Monthly Notices.*

No other favourable opportunity of observation occurred

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